Amendments to the Specification:

Please replace paragraph [0018] with the following amended paragraph:

[0018] FIG. 1B a schematic diagram illustrating the method and device of the data transmission channels based on an embodiment of the present invention wherein the device including at least two transmission channels 120 and 130 which are constructed for providing ~~an~~ temporary zone ~~needed by the~~ for data transmission and buffering, and further coupled~~ing~~ to a channel CODEC for data encoding and data decoding (not shown in FIG. 1B), and a bus 140 coupling the first data transmission channel 120 and the second data transmission channel 130 to a command processor (not shown in FIG. 1B) such as a host. ~~Furthermore, t~~The first data transmission channel 120 ~~and the second data transmission channel 130 are bounded by a pair of~~ is coupled to pipe indices 150 including MIDXT 150a and MIDXB 150b and further including a write pipe index WPIDX 151, a decode pipe index DPIDX 152, and a host-pipe sector data send index HPSIDX153 when the corresponding data transmission channel ~~as~~ is a decoded data buffer, ~~, and~~ The second data transmission channel 130 is coupled to ~~a pair of~~ pipe indices 160 including EIDXT 160a and EIDXB 160b and further including a record pipe index RECIDX 161, an encode pipe index ENCIDX 162, and a host-pipe sector data get index HPGIDX 163 when the corresponding data transmission channel ~~as~~ is a encoded data buffer~~, respectively~~. ~~Since~~ In an embodiment, if the command is "Host Read", the source data will be cached in the data transmission channel 120, decoded in the channel CODEC, delivered to the bus 140, and then the corresponding pipe indices value will be adjusted. ~~On the other hand, i~~If the command is "Host Write", the source data will be transmitted to and cached in the data transmission channel 130 through the bus 140, encoded, sent to the destination, and then the corresponding pipe indices value will be adjusted.

Please replace paragraph [0019] with the following amended paragraph:

[0019] FIG. 3 is a flowchart illustrating the controlling method and device for data transmission based on an alternative embodiment of the present invention. The corresponding data transmission channel and the successive processing procedures includeing encoding and storing to a peripheral ~~since~~ if the command is "Host Write", and decoding the data and delivering the decoded data to the bus 140 ~~since~~ if the command is "Host Read" in the step 310. Step 320 is the step for the bus 140 to determine the transmitting direction based on the second command. In step 330, the data processing procedures of the second command start ~~on~~, and the parts of data processing procedures of the first data transmission channel ~~keeping on~~ continue to proceeding simultaneously with the data processing procedures of the second command. ~~For example, since~~ This operation is different because in a normal system, the data retrieving process and the data decoding of the first command may~~be~~ not proceed in the channel CODEC or use the pickup head (PUH) of the CD-RW drive ~~coincide with the~~ while data is being transmitted~~ing~~ to the bus 140 ~~that of~~ by the second command.~~,~~ ~~t~~The data processing procedures of the first command may last for a ~~few~~ short period of time. ~~In other words,~~ The inventive system allows the concurrence of the "Host Write" and "Host Read" commands ~~can be achieved~~ since the data processing procedures of the two commands may be proceeding in the different elements of the system ~~in a~~ at the same time.

Please replace paragraph [0020] with the following amended paragraph:

[0020] FIG. 4 is a timing diagram illustrating the method based on another alternative embodiment of the present invention. Since the first command is "Host Read", label 401 shows that the pickup head and the data transmission channel are both in the decode mode, and the Integrated Device Electronics (IDE) is in the sector data send mode. Once the first command began to be performed and the flag "DISC_WR_Mode" is in the low level, the data retrieved sequentially and cached in the first data transmission channel 120 which resulted in the WPIDX

151 changed values, decoded in the channel CODEC which changed the values of DPIDX 152, and sent to the bus 140 which changed the values of HPSIDX 153. If the successive command is "Host Write", label 402 shows that the bus adjusted the direction to couple to the second data transmission channel 130 and the IDE is in the sector data get mode, and then the data will be cached in the second data transmission channel 130 which resulted in the HPGIDX 163 changed values, and once the flag "DISC_WR_Mode" is in the high level, the data encoded which changed the values of ENCIDX 162, and then stored in the peripheral which changed the values of RECIDX 161. Besides, label 403 comprises 403a, 403b, and 403c. Once the second command began to be performed, the bus 140 adjust~~sed~~ the data transmitting direction and ~~then~~ the values of HPGIDX 153 starts to change whereas the values of HPSIDX 163 stopped to change, as shown in 403a. To the peripheral and the channel CODEC, the conflict will not result from adjusting of the direction of the bus 140, the data retrieving and decoding of the first command could last until the flag "DISC_WR_Mode" pulled to high, as shown in 403b and 403c. Consequently, label 403 shows the characteristic of the present invention.

Please replace paragraph [0021] with the following amended paragraph:

[0021] On the other hand, consider the situation that the first command is "Host Write" and the second ~~one~~ command is "Host Read", since the first command began to be performed, the pickup head and the data transmission channel are both in the encode mode, and the IDE is in the sector data get mode. Once the flag "DISC_WR_Mode" is in the high level, the data will be retrieved sequentially from the bus 140 and cached in the second data transmission channel 130 which changed the values of HPGIDX 163, and then encoded in the channel CODEC which changed the values of ENCIDX 162, and sent to the peripheral to store which change~~d~~ the values of RECIDX 161, as shown in label 404. When the second command begins~~an to be performed~~, the pickup head and the data transmission channel are both in the decode mode, the IDE is in the sector data send mode, the data is cached in the first data transmission channel 120, decoded, and sent to the bus 140. ~~whereas changed t~~The values of the WPIDX 151, DPIDX 152, and HPSIDX

153 change, as shown in the label 405. ~~Besides, l~~Label 406 comprises 406a, 406b, and 406c. ~~Since~~ When the second command beginsan to be performed, the transmitting direction of the bus 140 will be adjusted, and the values of HPSIDX 153 starts to change whereas the values of HPGIDX 163 stopped to change, as shown in 406a. To the peripheral and the second data transmission channel 130, the conflict will not resulted from the bus 140 adjusting the direction, hence the data encoding and storing will last before the "DISC_WR_Mode" pulled to low level, as shown in 406b and 406c.

Please replace paragraph [0022] with the following amended paragraph:

[0022] In an embodiment ~~addition~~, if the successive commands are both "Host Read", and the corresponding data transmission channel has the decoded data which is waiting to be processed, then ~~it~~ the decoded data can be sent to the bus 140 during the interval before the bus 140 changing the transmitting direction~~,~~ and reduced the times of the "Flush", and hence shortening the transmission time, increasing facileness and improving the efficiency of the data transmission.

Please replace paragraph [0023] with the following amended paragraph:

[0023] ~~Furthermore, suppose that~~ In an embodiment, if a sequence of three commands is ~~are~~ "Host Read", "Host Write", and "Host Read" ~~respectively,~~ or ~~the sequence is~~ "Host Write", "Host Read", and "Host Write", ~~since~~ the data is buffered~~ing~~ via the corresponding transmission channel~~,~~ and the cached data in the transmission channel should not to be discarded frequently ~~for an~~ to accommodate~~ion to the~~ successive commands. In other words, since the data transmitting process may utilize ~~the~~ a different transmission channel ~~so that~~ the successive processinges of the data cached in the data transmission channel will not be interfered with ~~the time that the~~ when another command beginsan to be performed ~~and then should be terminated~~.